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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,086	10/02/2003	Yasuyuki Saito	03560.003368	7763
5514	7590	08/23/2005	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			RIELLEY, ELIZABETH A	
			ART UNIT	PAPER NUMBER
			2879	
DATE MAILED: 08/23/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/676,086

Applicant(s)

SAITO ET AL.

Examiner

Elizabeth A. Rielley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 1-8, 12-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/13/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 1-8 and 12-13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 6/30/05.

Applicant's election with traverse of claims 9-11 in the reply filed on 6/30/05 is acknowledged. The traversal is on the grounds that an examination of two similar inventions does not constitute a serious burden on the Examiner. This is not found persuasive because even if the Applicant does not consider the examination a burden, the election-restriction is based on the two different inventions, namely, an apparatus and a process for manufacturing. An examination of the device does not mean that the references used to reject it will automatically be used to reject the manufacturing process, since both inventions have different features of limitations. Thus, the serious burden on the Examiner of having to search all the features of limitations directed to different inventions and to reject each invention using different references is eliminated by the proper election of invention requirement. Moreover, when searching only the elected invention, there will not be a need to search for features not stated in the elected invention, thus resulting in a reduction of the workload and in a simplification of the prosecution of the application.

The requirement is still deemed proper and is therefore made **FINAL**.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inaba et al (US 6638403) in view of Garvey et al (US 6797336).

In regard to claim 9, Inaba et al ('403) teach a deposition apparatus (figure 11) for carbon fiber comprising: a first chamber (not numbered; column 3 line 34 to column 4 line 16); a transporting tube (33; column 9 line 24 to column 10 line 30); a second chamber (6) communicated to said first chamber (not numbered) through said transporting tube (33); an electrode (2) containing carbon (1; column 3 lines 49-50) disposed within said first chamber (not numbered); an electrode (2) containing carbon (1; column 3

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lines 49-50) disposed within said first chamber (not numbered); and an additional electrode (4) for producing an arc discharge (5). Inaba et al ('403) are silent regarding the limitations that the first electrode is an anode and the second electrode is a cathode which is disposed facing the anode and a pressure control means for keeping the pressure in said first chamber greater than the pressure in said second chamber. Garvey et al ('336) disclose a deposition apparatus (figure 1) that comprises an anode (34; column 6 lines 4-19) containing carbon (column 17 lines 22-24) disposed within said first chamber; a cathode (36) disposed within said first chamber (79), facing said anode containing carbon (see figure 1); and pressure control means for keeping the pressure in said first chamber greater than the pressure in said second chamber (not numbered; column 6 lines 16-19) in order to simplify the process of coating thin films of nano-sized particles (column 3 lines 28-30). Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the deposition apparatus of Inaba et al with the electrode configuration and transportation means of Garvey et al. Motivation to combine would be to simplify the process of coating thin films of nano-sized particles.

In regard to claim 10, Garvey et al ('336) disclose a deposition apparatus for depositing carbon fiber (figure 1) comprising an anode including a carbon electrode (34; column 6 lines 4-20; column 17 lines 22-24); a cathode facing said anode (36; see figure 1); and a conduit (83; column 18 lines 31-41) for ejecting therefrom carbon fiber formed by arc discharge (column 6 lines 33-38) between said anode and cathode in an inert gas (column 12 lines 35-40), as a jet to form carbon fiber on a substrate (87; see figure 1). Garvey et al ('336) are silent regarding the limitation that the conduit contains a nozzle. Inaba et al ('403) teach a conduit (33) with a nozzle (30, 26; column 8 line 65 to column 9 line 15) in order to focus the particles onto the substrate (column 9 lines 49 to column 10 lines 11). Hence it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the deposition apparatus

with the conduit nozzle of Inaba. Motivation to combine would be to focus the particles onto the substrate.

In regard to claim 11, Garvey/Inaba teach all the limitations set forth, as described above. Garvey also teaches a carbon fiber-generating chamber (figure 1; 70; column 6 lines 4-52) including an anode (34) formed of a carbon material (column 17 lines 22-24), a cathode (36) disposed with a predetermined distance to said anode (see figure 1) for causing said arc discharge between said anode and said cathode so as to heat and evaporate said carbon material (column 6 lines 4-52), suctioning evaporation source (column 6 lines 16-20; the difference in pressures naturally cause a suctioning effect¹), and an inert gas introducing unit (104, column 12 lines 35-40), a carbon fiber film-forming chamber (81), a substrate (87), and an inert gas exhaust unit (column 18 lines 3-10); wherein carbon nanofiber generated by the heating and evaporating is transported along with said inert gas due to the pressure difference between said carbon fiber-generating chamber and said carbon fiber film-forming chamber for ejecting as a jet (column 6 lines 16-20; see figure 1), whereby a carbon fiber film or a lump containing carbon fiber is formed on said substrate. Garvey is silent regarding the limitations of a transporting tube, an opening of the transporting tube disposed above the evaporation source, the tube includes a nozzle connected to the end of said transporting tube, and the substrate disposed facing said nozzle. Inaba et al teach a transporting tube (33), an opening of the transporting tube disposed above the evaporation source (22; see figure 11), the tube includes a nozzle (30, 26; column 8 line 65 to column 9 line 15) connected to the end of said transporting tube (see figure 11), and the substrate disposed facing said nozzle (see figure 11) in order to better focus the particles onto the substrate (column 9 lines 49 to column 10 lines 11). Hence it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the deposition

¹ <http://encarta.msn.com/encnet/features/dictionary/DictionaryResults.aspx?refid=1861716703>

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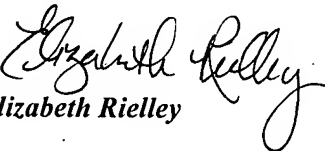
apparatus with the conduit nozzle of Inaba. Motivation to combine would be to focus the particles onto the substrate.

Conclusion

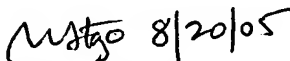
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. Rielley whose telephone number is 571-272-2117. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Elizabeth Rielley

Examiner
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MARICELI SANTIAGO
PRIMARY EXAMINER